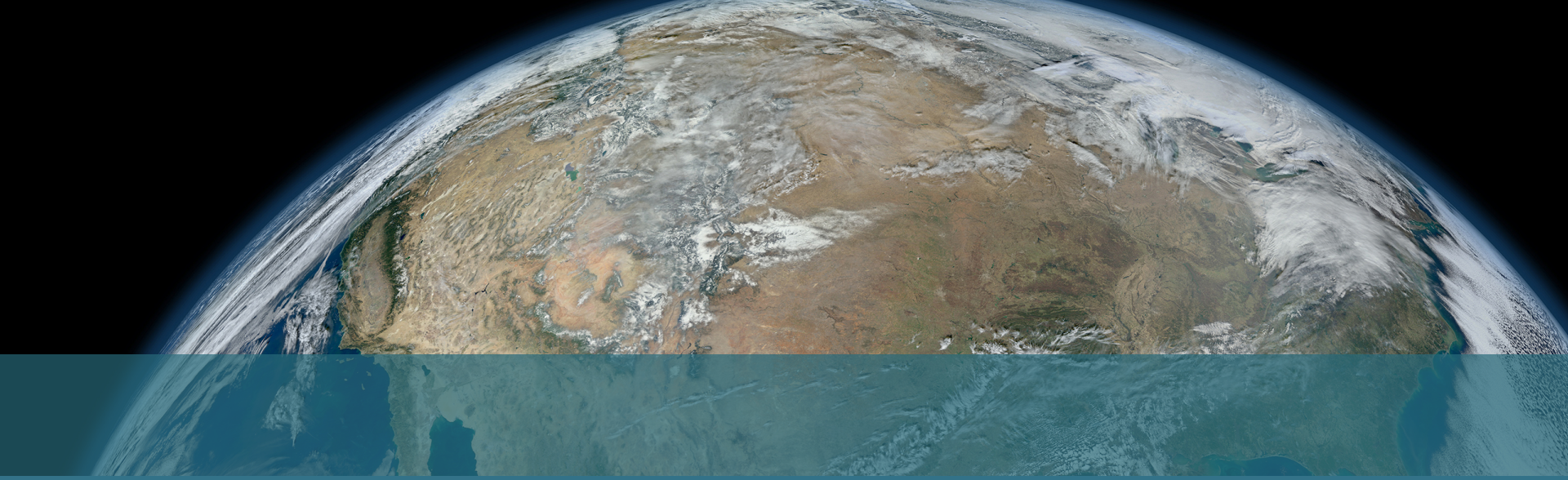


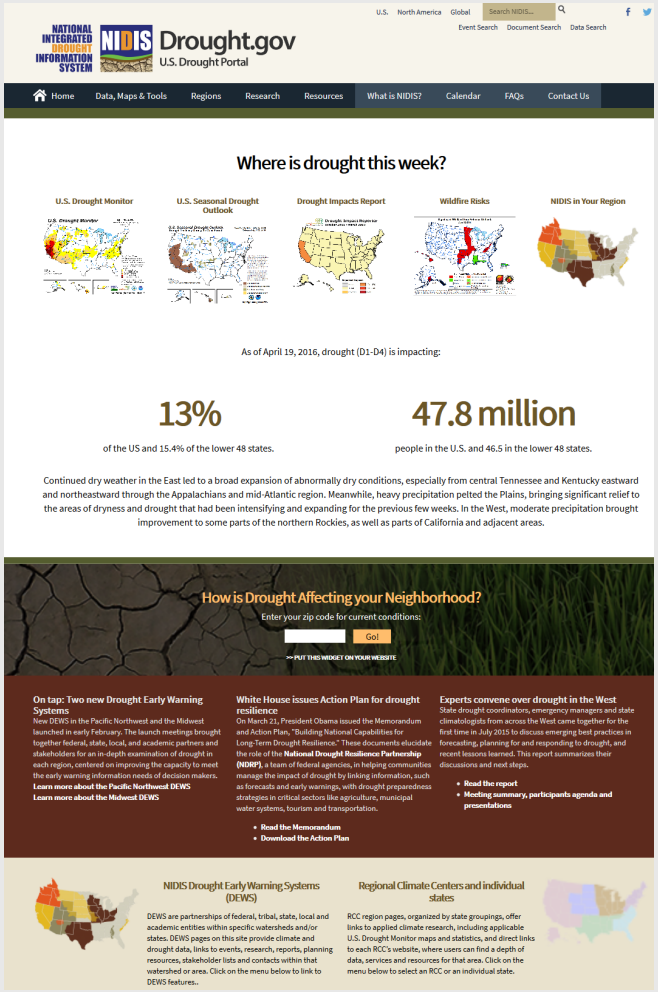
US Drought Portal

Deke Arndt
NOAA's National Centers for Environmental Information
Center for Weather and Climate

4/26/2016

Requirements from Implementation Plan

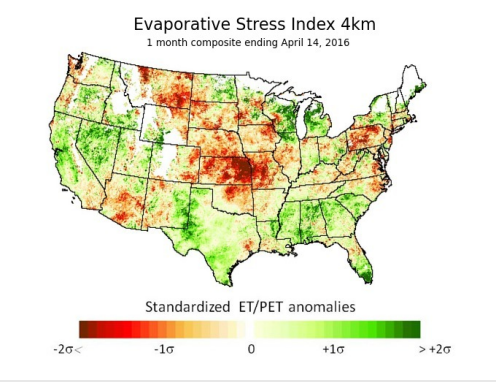
- Develop and designate a national internet-based clearinghouse for data, models, risk information, and impacts of drought, with responsibility for archiving and disseminating data through a Web-based portal.
  - Portal continuously in operation from November 2007 to present with the exception of the Government Shutdown of 2013
  - Multiple iterations (seven!) of the Drought Portal driven by refined user requirements



Requirements from Implementation Plan

USDP will serve to provide reliable information on drought conditions at county, regional, and national scales and serve as the primary point of entry for drought-related queries (through … drought.gov) for a variety of user groups. Such questions include *(and have historically driven the structure of the Drought Portal)*:

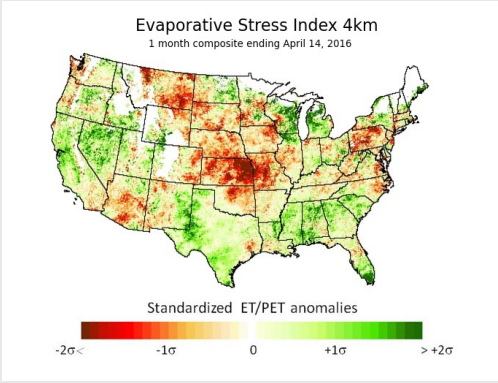
- Where are drought conditions now and where might they develop?
  - *–USDP Ex. Current conditions dashboard*
  - *–A Relevant NIDIS Community: Observations and Monitoring*
- Does this drought event look like other events in the past?
  - *–USDP Ex. Web mapping tool and other tools to graph pertinent drought information. Slider map viewer. Palmer drought comparison viewer.*
  - *–A Relevant NIDIS Community: Observations and Monitoring; Interdisciplinary Research and Applications*



Requirements from Implementation Plan

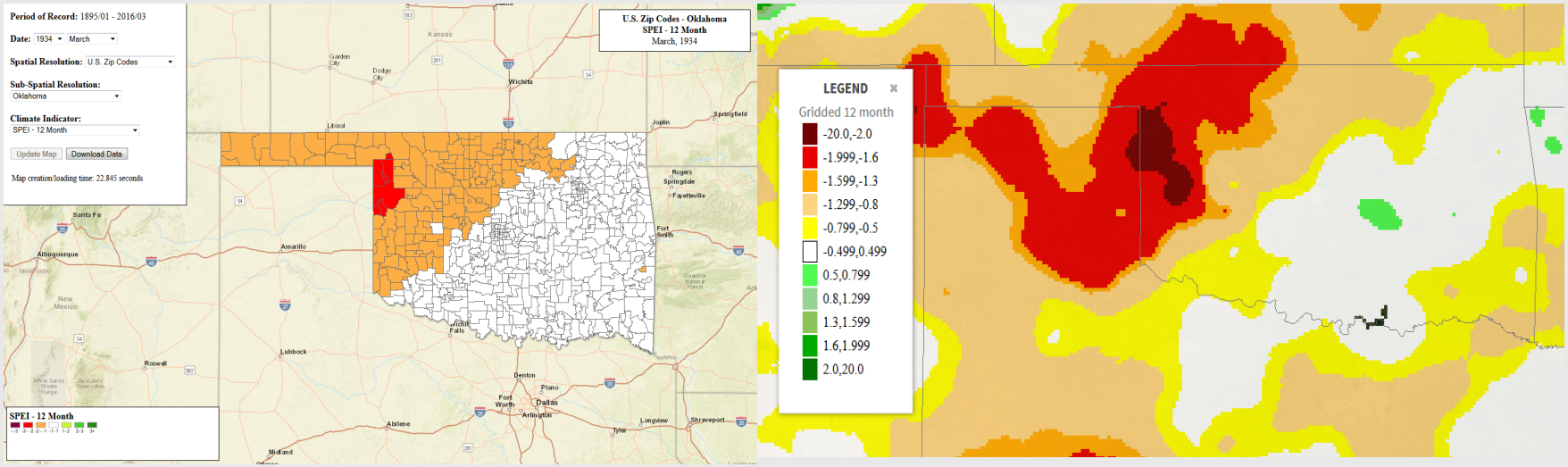
USDP will serve to provide reliable information on drought conditions at county, regional, and national scales and serve as the primary point of entry for drought-related queries (through … drought.gov) for a variety of user groups. Such questions include *(and have historically driven the structure of the Drought Portal)*:

- Will the drought continue?
  - *–USDP Ex. Forecast and outlook products, ESI suite. Extensive work with CPC, IRI, and USDA to get information integrated.*
  - *–A Relevant NIDIS Community: Predictions and Forecasts*
- How is the drought affecting me?
  - *–USDP Ex. Drought impacts reporter. EPA map viewer for HUC-based impacts on water supplies.*
  - *–A Relevant NIDIS Community: Public Awareness and Education*
- How can I plan for and manage the impacts of drought?
  - *–USDP Ex. Planning and recovery sections.*
  - *–A Relevant NIDIS Community: Engaging Preparedness Communities*



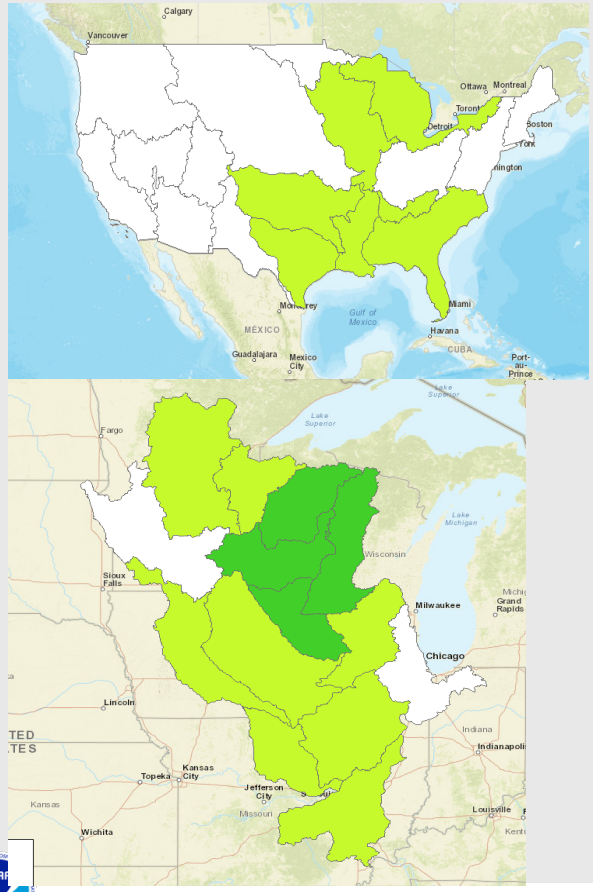
Requirements from Implementation Plan

- In considering USDP information, the ability to provide county-level granularity is important to stakeholders in terms of near-real-time reporting of precipitation, temperature, soil moisture, streamflow, and reservoir levels. Both pull and push of data (*e.g.*, Drought Impact Reporter) are important. Homogeneity and standardization in reporting are important.
  - New tools development to address requirements when information is not available
  - March 1934 SPEI for Oklahoma Counties (Left) derived dynamically from gridded 5km data. Data at county level available for download.

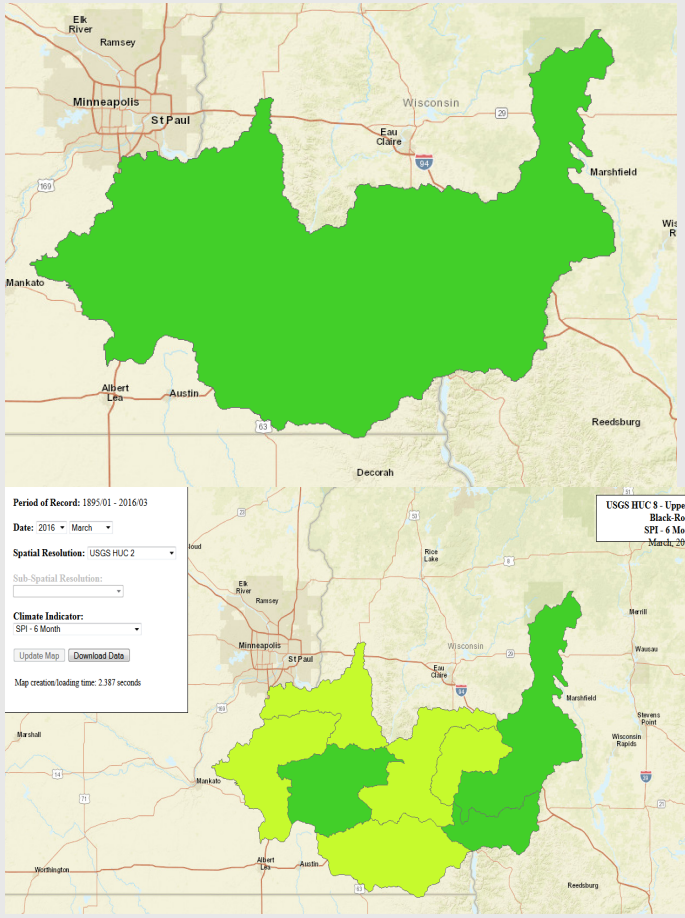


Requirements from Implementation Plan

- More examples of making data and information available at scales NIDIS Plan and users call for.



March 2016 SPI data available at HUC2, HUC4, HUC6, and HUC8 levels for CONUS. Dynamically derived from gridded data. Data at each level available for download. Data back to January 1895.



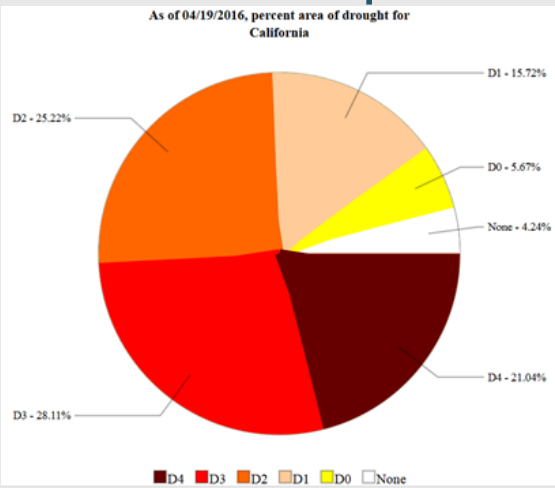
Requirements from Implementation Plan

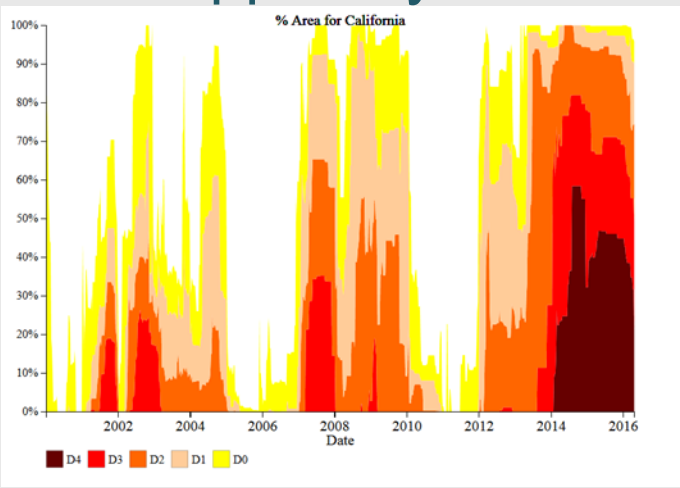
- Product to be included in the USDP are:
  - **Observed Data** (Observed elements at multiple time and spatial scales as both station and gridded datasets: precipitation, snowpack, streamflow, reservoir levels, ground water, crop moisture, soil moisture, temperature, anomalies, and drought impacts)
  - **Derived Products and Indices** (U.S. Drought Monitor, Palmer Drought Severity Index (PDSI), Standardized Precipitation Index (SPI), Objective Blends, Surface Water Supply Index (SWSI), Vegetation Drought Response Index (VegDRI), and the Keetch-Byram Drought Index (KBDI)).
  - **Forecast Products** (Water supply, streamflow, climate, snowpack, and U.S. Drought Outlook).
  - **Educational Products** (Information that educates the user on what data are used to construct specific products, uncertainty in the observations, indexes, and forecasts. It will also provide examples of which products should be used to make specific decisions)
  - **Planning and Mitigation** (Decision makers and businesses at state and county levels that need to plan for and mitigate drought)
  - **Decision Support Systems** (Drought experts and scientists tasked with developing more refined decision support systems)

Requirements from Implementation Plan

The USDP will also:

- Support the ability to graph relevant data and products spatially and temporally, and interactively compose maps,
- Allow users to arrange and save selected products for a specific geographic area for easy return visits, and
- Support links to specific decision support systems.





Web façade has evolved with the underlying data and improved design

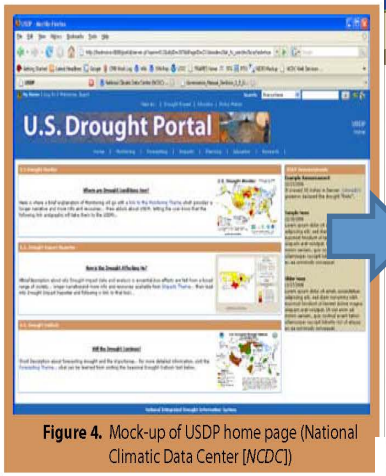
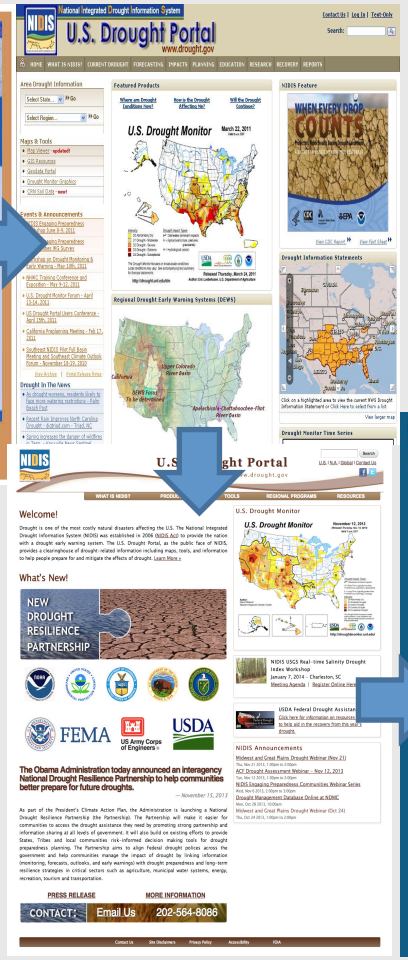


Figure 4. Mock-up of USDP home page (National Climatic Data Center [*NCDC*])



Use

- Caveat: only three weeks of data on new site, but generally supports the trends we've seen in recent years
  - Bounce rate: **30.1%**
  - Avg residence time: 4-7 minutes per visit
  - Avg clicks per user: approx 3.

- Main takeaways:
  - Together these suggest that we are serving a very focused community very well.
  - People come for the data, and stay for the data
  - People find our specialized content via search more than via navigation

Going Forward: Starter ideas

Going forward: General web stuff

- We have a well-served niche community.
- It is overwhelmingly interested in data.

- If participation/viewing of regional DEWS is an important goal, recommendation:
  - **Pull** them to RDEWS with data,
  - Don't **Push** them to RDEWS with navigation

- Relevant Homespun Okie wisdom:
  - –Dance with the girl that brung ya,
  - –Don't fix what ain't broken,
  - –Throw your pitch

Going forward: General web stuff

- Incorporate information from Working Groups as that information matures
- Complete 508 (accessibility) compliance
- Break up content from PDFs to sharable content (straight from Wayne Higgins, also happens to be great idea)
- Automatic/User-opt place-based information (“hey, you appear to be in <place>, here are the current drought conditions around you”):
  - Technologically easy. NOAA/DoC IT/Legal policies are a challenge.

Going forward: Current data projects

Active:

- County / HUC / Zip Code viewer
  - –(this will very likely be done in a few weeks)
- Incorporate CPC weights into Termination & Amelioration product
  - –Prototype early 2017; finalized late 2017

Currently Hibernated:

- Automated 50 state summaries
- Daily gridded data
- Refine County / HUC / Zip Code viewer to take daily data
  - –Allows for “rolling” analyses (drought doesn’t happen in one-month chunks)
- Paleo drought context at climate division level
- Map slider (compare this drought to that drought)

NOAA's National Centers for Environmental Information

www.ncei.noaa.gov
www.drought.gov

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